



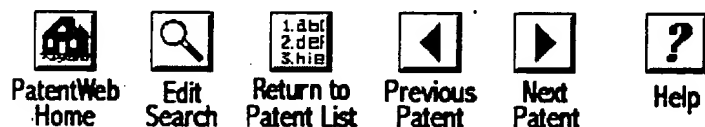
DC-DC converter for increasing the voltage of a secondary battery for charging to feed a power to the foregoing next stage.

**SOLUTION:** A DC-DC converter 4 is a DC-AC-DC conversion type one which operates even when the voltage of a secondary battery 3 for charging becomes lower than the voltage of a next stage battery 9, and feeds a power to the next stage secondary battery 9 via a diode 5 both for preventing a reverse current and for controlling a voltage. Further, in the case of using the voltage of a constant-voltage secondary battery 3 as a reference voltage, when the output voltage of a comparison circuit 7 is higher than the reference voltage, after the output voltage is converted into an AC voltage via a chopper circuit, the AC voltage is lowered to the charging voltage of the ordinary secondary battery 9 by a step-down circuit to charge the battery 9 via the voltage controlling diode 5. Also, when being lower than the reference voltage, the AC voltage is increased to the charging voltage of the ordinary secondary battery 9 by a step-up circuit to charge the battery 9. As a result, a battery charging power supply capable of a long-time charging is obtained.

**Int'l Class:** H02J00735 H01G009155 H01L03104 H01M01046 H02N00600

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